Municipal Sanitary Authority of New Kensington
Headworks Analysis for Local Limits Re-evaluation

MOTT MACDONALD

Ms. Margaret Green
Office of Municipal Assistance (3WP24)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

APR 0 3 2019

Municipal Sanitary Authority of New Kensington
Headworks Analysis for Local Limits Re-evaluation

Our Reference
408560

Two Allegheny Center
Nova Tower 2, Suite 802
Pittsburgh PA 15212
United States of America

T +1 (412) 497 2900
F +1 (412) 497 2901
www.mottmac.com/americas

April 3, 2019

Dear Ms. Green:

On behalf of the Municipal Sanitary Authority of the City of New Kensington, please find enclosed one (1) copy of the Headworks Analysis for Local Limits Re-evaluation for your review.

If you have any questions regarding these matters, please contact me.

Linda French

Linda French
Project Scientist
T 412.497.2912
Linda.French@mottmac.com

/lf

cc: Joe Ditty (MSANK)

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Mott MacDonald
Two Allegheny Center
Nova Tower 2, Suite 802
Pittsburgh PA 15212
United States of America

T +1 (412) 497 2900
F +1 (412) 497 2901
mottmac.com

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Tables

Executive summary

The Industrial Pretreatment Program of the Municipal Sanitary Authority of the City of New Kensington (MSANK) was developed in 1993 and approved by the United States Environmental Protection Agency (USEPA) in 1994. The USEPA issued renewal NPDES permit PA0027111 to MSANK on June 14, 2017. The permit is effective from July 1, 2017 to June 30, 2022. The purpose of this Headworks Analysis for Local Limits Re-evaluation Report is to address requirements in Part C, Section E of the NPDES permit, which requires MSANK to submit a re-evaluation of their system to the USEPA and the Pennsylvania Department of Environmental Protection (PADEP) based on a Headworks Analysis of its treatment plant.

The scope of the Headworks Analysis for Local Limits Re-evaluation included the following tasks:

1. Identification of all regulated industrial and commercial users with discharges that potentially could have an effect on the MSANK treatment plant processes.
2. Conducting a Headworks Analysis sampling program over a five-day period. The sampling program involved collecting 24-hour composite and grab samples of the treatment plant Influent, Effluent, Digester Influent, Background Sources and Treatment Plant Sludge.
3. Evaluation of the results of the Headworks Analysis sampling program to determine allowable amounts of priority pollutants at the MSANK treatment plant.
4. Calculation of revised local limits for the industrial users based on the allowable amounts of priority pollutants at the treatment plant.
5. Evaluation of the potential impact of the revised local limits on the MSANK pretreatment program.

1 Criteria for development of revised local limits

1.1 Basis for development of revised local limitations

The methodology used to develop re-evaluated local limits for MSANK was consistent with the methodology recommended by the USEPA in the following:

- Guidance Manual on the Development and Implementation for Local Discharge Limitations under the Pretreatment Program, USEPA, Office of Water Enforcement and Permits, Washington, D.C., December 1987
- Local Limits Development Guidance, USEPA, Office of Wastewater Management 4203, EPA 833-R-04-002A and B, July 2004

These documents are referenced throughout this study as USEPA Guidance Manual.

1.2 Headworks Analysis Sampling Plan

MSANK developed a Headworks Analysis Sampling Plan that was approved by USEPA on February 21, 2017. A copy of the sampling plan and the approval letter are included in Appendix A. The Headworks Analysis Plan was implemented as described below.

1.2.1 Pollutants evaluated

MSANK evaluated a total of 16 parameters as part of the Headworks Analysis. The Headworks Analysis evaluation consisted of the "standard ten" parameters including arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, silver and zinc. Molybdenum and selenium were also evaluated due to their inclusion in both EPA's and Pennsylvania's sludge quality programs. The other parameters for which MSANK currently has local limits also were evaluated including: Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Suspended Solids (TSS), oil and grease, and pH.

No additional toxic pollutants are included in the NPDES permit, nor have any other priority pollutants been detected at significant levels during the priority pollutant scans conducted as part of the quarterly monitoring required by the Pretreatment Program.

1.2.2 Sampling points

MSANK utilized five sampling locations to conduct the Headworks Analysis. The sampling locations were:

1. Raw Influent
2. Influent to Digester
3. Final Effluent
4. Background samples solely from domestic sources
5. Dewatered Sludge

1.2.3 Number and type of sampling events

- Historical sample data

MSANK used historical monitoring data to supplement the samples collected for the Headworks Analysis. The use of historical data from 2013 through 2017 was used in the headworks analysis spreadsheet.

- B. Sample data

In order to assess current plant conditions, MSANK conducted sampling on a daily basis for a five-day period. Grab samples were collected for cyanide, oil and grease. Temperature and pH were evaluated through on-site testing procedures. All other parameters were evaluated using 24-hour composite samples. Sample data included the following:

- Raw influent and final effluent

Five, 24-hour composite samples of the raw influent and final effluent samples were collected for analysis. These samples were analyzed for the 16 parameters referenced previously.

- Influent to digester

A total of five daily grab samples of influent to digester were collected and analyzed for the non-conservative parameter of cyanide.

- Background

Six, 24-hour composite samples of background wastewater from domestic sources were analyzed for the parameters referenced previously. Two samples were collected from a background sampling location in New Kensington, and three samples were collected from a background sampling location in Arnold. Background sampling in New Kensington was conducted at Macargo Street and Ester Street. Background sampling in Arnold was collected on Moore Street and Richmond Street and background sampling in Lower Burrell was collected along Macbeth Street and Puckety.

- Sludge

Five samples of dewatered sludge were collected from the belt filter press area at the treatment plant. Sludge samples were collected on days when the influent and effluent samples were being collected.

1.2.4 Analytical methods

A listing of the parameters and the analytical methods are as follows:

Table 1: Analytical methods

Parameter	Analytical method
Arsenic	EPA 200.7 4.4
Cadmium	EPA 200.7 4.4
Chromium	EPA 200.7 4.4
Copper	EPA 200.7 4.4
Cyanide	SM-4500 C, E
Lead	EPA-200.7 4.4
Nickel	EPA-200.7 4.4
Zinc	EPA 200.7 4.4
Molybdenum	EPA 200.7 4.4

Parameter	Analytical method
Selenium	EPA 200.7 4.4
Total suspended solids	SM-2540D-97
Oil and grease	EPA 1664A
pH	SM-4500-H B-00
Mercury	EPA-245.1 3.0
Silver	EPA 200.7 4.4
Carbonaceous biochemical Oxygen demand	SM 5210B-01

2 Pretreatment limitations spreadsheet

Revised local limits for the parameters were developed using the USEPA Pretreatment Limitations Spreadsheet Version 5.3, in conjunction with USEPA's available guidance documents. The spreadsheet first calculates a maximum allowable headworks loading (MAHL) for each parameter by evaluating several different criteria and selecting the one that results in the most stringent allowable loading. The criteria evaluated by the spreadsheet include NPDES effluent limits, water quality criteria, and sludge disposal criteria which are inputs to the spreadsheet. The calculation is based on the criteria and the associated removal efficiency for each parameter.

Once the maximum allowable headworks loading is calculated, the spreadsheet determines the maximum allowable industrial loading, which is the portion of the allowable headworks loading allocated for industrial dischargers. This is done by accounting for both a user-specified safety/expansion factor and the current loadings from uncontrolled (non-industrial) sources.

The maximum allowable industrial loading can then be allocated to the industrial discharges via several different approaches. In the case of MSANK, the allocation was done based on the Uniform Concentration Limit approach. This approach involves dividing the maximum allowable industrial loadings by the total industrial flow to calculate concentration limits, which are then applied uniformly to all industrial dischargers.

The specific inputs used in the spreadsheet and the resulting outputs are described below. A copy of the printouts from the spreadsheet used to generate the local limits for MSANK are included in Appendix B. The printouts include a summary of the input values as well as the calculation results.

2.1 Spreadsheet input data

2.1.1 Wastewater unit operations and effluent disposal

The following major elements of MSANK's treatment process were identified in the spreadsheet:

- Primary clarification
- Activated sludge
- Anaerobic digestion
- Discharge to fresh water stream

These inputs allow the model to determine applicable criteria.

2.1.2 Plant flow information

The spreadsheet requires four average daily flow values: the total influent flow, the influent flow received from industrial contributors, the non-industrial influent flow, and the flow of sludge to the digesters.

Historical flow data from 2013 to 2017 was used to determine the influent flow. The average total daily influent flow was 5.874 MGD. The current NPDES permit allows for an average daily flow of 6.0 MGD. Flows exceeding this amount are due to the combined nature of the sewage collection system. Heavy rains will elevate flows but also dilute contaminants minimizing their effect on the plant's discharge.

The average daily industrial flow value used in the model was the sum of the average discharge flows from both the significant and non-significant industrial users based on MSANK flow records for 2017. The average flow from the significant and non-significant industrial users totaled 0.367 MGD.

The sludge to digester flow rate was based on data collected during 2013 to 2017. An average sludge to digester flow rate of 0.037 MGD was used in spreadsheet.

2.1.3 Receiving water flows

Although the facility discharges to Pucketa Creek, the PADEP considers it a direct discharge to the Allegheny River from a water quality standpoint because of the close proximity of the discharge to the river. Thus, the Allegheny River was considered the receiving stream for purposes of calculating revised local limits for the wastewater treatment plant.

The spreadsheet requires a receiving water dilution ratio based on the 7Q10 flow rate of the receiving stream. The flow rates used for the Allegheny River included a 7Q10 of 1,874 MGD (2,900 cfs) and a Harmonic Mean Stream Flow of 5,099 MGD. These receiving water flow rates are consistent with those used to develop the existing local limits. It was assumed that, in both cases, 100 percent of the receiving water flow is available for dilution.

2.1.4 Sludge disposal

Dewatered sludge (filter cake) from the facility currently is disposed in a landfill. However, for purposes of calculating the revised local limits and in accordance with the Headworks Analysis spreadsheet Table 14, clean sludge criteria were used in the calculation of the updated local limits. The sludge disposal rate input into the spreadsheet was based on the average annual quantity of dewatered sludge generated in years 2013-2017, which was 331 dry metric tons or 0.91 dry metric tons per day.

2.1.5 Average influent concentrations

The spreadsheet uses average influent concentrations in order to provide a comparison of the calculated maximum allowable loadings to the actual influent loadings. The average influent concentrations were based on the five days of influent data collected as part of the Headworks Analysis Sampling Plan and the quarterly data collected from years 2013 through 2017. When calculating the averages, measurements reported as non-detectable were assumed to be equal to one half of the detection limit and the cells were shaded pink to signify the difference.

2.1.6 Average non-industrial concentrations

The average non-industrial concentrations for all parameters were based on the five days of "background" sampling data collected as part of the Headworks Analysis Sampling Plan. The "background" samples were collected from residential sections of the MSANK service area at points with no known contribution of flow from commercial or industrial dischargers. Measurements reported as non-detectable were assumed equal to one half of the detection limit.

2.1.7 Pollutant levels in sludge

The average pollutant concentrations in the sludge were based on data collected from the five days of sampling collected as part of the Headworks Analysis Sampling Plan and the quarterly data collected from 2013 to 2017.

2.1.3 Sludge disposal criteria

The spreadsheet uses sludge disposal criteria to calculate allowable headworks loadings that ensure compliance with clean sludge goals. As previously mentioned, MSANK currently sends its dewatered sludge to a landfill. However, in accordance with USEPA guidance, the clean sludge criteria were used to calculate the updated local limits. These criteria are all expressed in terms of milligrams of pollutant per kilogram of sewage sludge on a dry weight basis.

3 Spreadsheet output data

Table 2 provides a summary of revised local limits calculated by the spreadsheet based on the use of the input parameters described above and the Uniform Concentration Limit approach. The table also lists the governing condition (i.e., the type of criteria that resulted in the most stringent allowable influent loading). A list of the existing local limits also is included for comparison purposes. A brief discussion of the results obtained for each parameter is provided below.

3.1 Existing local limit parameters

3.1.1 $CBOD_5$

The existing local limit for $CBOD_5$ is 729 mg/l. MSANK desires to retain their existing local limit of 729 mg/l. Retaining the existing limit is intended to assure compliance with the 25 mg/l monthly average discharge limitation in the facility's NPDES permit.

3.1.2 TSS

The existing local limit for TSS is 771 mg/l. Consistent with the $CBOD_5$ parameter, MSANK desires to retain the existing local limit to assure compliance with the 30 mg/l monthly average discharge limitation in the facility's NPDES permit.

3.1.3 Arsenic

The governing condition in the calculation of the revised local limit for arsenic was the sludge criteria. The calculated limit for arsenic was 0.07 mg/l. The existing limit for arsenic is 0.11 mg/l. MSANK desires to adopt the proposed local limit of 0.07 mg/l.

3.1.4 Cadmium

The governing condition in the calculation of the revised local limit for cadmium was the sludge criterion. The calculated local limit for cadmium is 0.05 mg/l and the existing local limit is 0.11 mg/l. MSANK desires to adopt the 0.05 mg/l local limit for cadmium.

3.1.5 Total chromium

The governing condition in the calculation of the existing and revised local limit for total chromium was based on preventing inhibition of the activated sludge process. The revised local limit for total chromium is 12.8 mg/l, compared to the existing limit of 12.2 mg/l. MSANK desires to adopt the revised limit of 12.8 mg/l.

3.1.6 Copper

The governing condition in the calculation of the revised local limit for copper was the sludge criterion. The revised local limit for copper is 0.42 mg/l and the existing local limit is 0.69 mg/l. MSANK desires to adopt the revised local limit for copper.

3.1.7 Total cyanide

The governing condition in the calculation of the revised local limit for total cyanide was based on inhibition of the activated sludge process. The revised local limit for total cyanide is 0.48

mg/l, compared to the existing limit of 0.12 mg/l. MSANK desires to adopt the revised limit of 0.48 mg/l.

3.1.8 Lead

The governing condition in the calculation of the revised local limit for lead was the sludge criterion. The revised local limit for lead is 0.17 mg/l and the existing limit is 0.17 mg/l. MSANK desires to adopt the revised local limit for lead.

3.1.9 Mercury

The governing condition in the calculation of the revised local limit for mercury was the sludge criterion. The revised local limit for mercury is 0.013 mg/l and the existing limit is 0.016 mg/l. MSANK desires to adopt the revised local limit for mercury.

3.1.10 Nickel

The governing condition in the calculation of the revised local limit for nickel was the sludge criterion. The revised local limit for nickel is 0.25 mg/l and the existing limit is 0.22 mg/l. MSANK desires to adopt the revised local limit for nickel.

3.1.11 Selenium

The governing condition in the calculation of the revised local limit for selenium was the sludge criterion. The revised local limit for selenium is 1.60 mg/l and the existing limit is 1.36 mg/l. MSANK desires to adopt the revised local limit for selenium.

3.1.12 Silver

The governing condition in the calculation of the revised local limit for silver was inhibition of the activated sludge process. The revised local limit for silver was 1.38 mg/l. The existing local limit for silver is 0.56 mg/l. MSANK desires to adopt the revised local limit for silver.

3.1.13 Zinc

The governing condition in the calculation of the revised local limit for zinc was the sludge criterion. The revised local limit for zinc is 1.55 mg/l and the existing limit is 1.99 mg/l. MSANK desires to adopt the revised local limit for zinc.

3.1.14 pH

The pH of the influent collected during the Headworks Analysis Sampling Program ranged from a minimum of 6.32 s.u. to a maximum of 6.69 s.u. The pH of the effluent during this time period ranged from a minimum of 6.64 to a maximum of 7.23 s.u. The pH of the background samples during this time period ranged from a minimum of 6.47 to a maximum of 7.35 s.u.

Review of daily pH measurements of the MSANK treatment plant effluent during 2017 indicates the effluent pH ranged from a minimum of 6.6 to a maximum of 7.6 s.u. MSANK desires to retain their existing pH limits of 6.0-11.5 s.u.

3.1.15 Oil and grease

The spreadsheet was not used to calculate a limit for oil and grease due to lack of criteria upon which to develop a revised local limit. The existing surcharge local limit for oil and grease appears to be based on criteria found in Section 3.10(h) of the MSANK Rules and Regulations Governing Sewage Services. The existing surcharge limit of 100 mg/l and fine limit of 500 mg/l

are believed sufficient to protect the treatment system from obstruction of flow in the sewer and interference with treatment plant operations therefore MSANK desires to retain these limits.

3.1.16 Temperature

The spreadsheet was not used to calculate a limit for temperature due to lack of criteria upon which to develop a revised local limit. The existing local limit for temperature appears to be based on criteria found in Section 3.10(a) the MSANK Rules and Regulations Governing Sewage Services (1975, as amended). The existing limit of 150 degrees F is believed to provide sufficient protection such that wastewater at the introduction of the treatment plant does not exceed a temperature of 104 degrees F, so as not to inhibit biological activity in the treatment plant resulting in pass-through or interference.

Table 2: Summary of existing and revised local limits

	Existing local limits	Revised local limits	Governing condition for revised limits
Arsenic	0.11	0.07	Sludge
Cadmium	0.11	0.05	Sludge
Chromium	12.2	12.8	Inhibition of activated sludge
Copper	0.69	0.42	Sludge
T. Cyanide	0.12	0.48	Inhibition of activated sludge
Lead	0.17	0.17	Sludge
Mercury	0.016	0.013	Sludge
Nickel	0.22	0.25	Sludge
Selenium	1.36	1.60	Sludge
Silver	0.56	1.38	Inhibition of activated sludge
Zinc	1.99	1.55	Sludge
pH	6.0-11.5	6.0-11.5	N/A
Oil and grease	500	500	N/A
Temperature	104° F	104° F	N/A
CBOD	729	729	N/A
TSS	771	771	N/A

4 Results and discussion

4.1 Results of spreadsheet

Results of the spreadsheet indicate proposed limits are more stringent than existing limits for arsenic, cadmium, copper, mercury, and zinc. The proposed limits are less stringent than existing local limits for chromium, cyanide, nickel, and selenium. The proposed limits stayed the same as the existing limits for lead, CBOD and TSS.

4.2 Limits applicable to Keystone Rustproofing, Inc.

Keystone Rustproofing is regulated under electroplating categorical limits in 40 CFR 413.14(c) Pretreatment Standards for Existing Sources and under Metal Finishing categorical limits in 40 CFR 413.17 (a)-Pretreatment Standards for New Sources.

As part of the 2012 Headworks Analysis, the combined waste stream formula was used to calculate potential limits in Keystone's permit. The daily maximum local limits for all parameters except chromium were more stringent than the limits calculated using the combined waste stream formula and were imposed in the permit. The combined waste stream formula limit for daily maximum chromium was imposed in the permit. Since MSANK does not impose monthly average local limits on other industrial dischargers, the monthly average limits calculated using the combined waste stream formula were imposed in the Keystone permit. In other words, the Keystone permit contained a combination of daily maximum local limits (except for chromium) and monthly average combined waste stream limits.

The combined waste stream formula was used to calculate the limits for this Headworks Analysis Re-evaluation. See Appendix C for the combined waste stream formula limits calculated using flow data provided by Keystone Rustproofing in January 2018.

Appendices

A. Sampling plan and approval letter

THE MUNICIPAL SANITARY AUTHORITY OF THE CITY OF NEW KENSINGTON

120 Logans Ferry Road, New Kensington, PA. 15068-2046
Phone (724) 335-9813 - Fax (724) 335-8289

June 21, 2016

Ms. Jasmine Hennie
Office of Municipal Assistance (3WP24)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

MUNICIPAL SANITARY AUTHORITY OF THE CITY OF NEW KENSINGTON
NPDES PERMIT NO. PA0027111
HEADWORKS ANALYSIS SAMPLING PLAN

Dear Ms. Hennie:

On behalf of the Municipal Sanitary Authority of the City of New Kensington (MSANK), please find enclosed the proposed Headworks Analysis Sampling Plan being submitted for your review and approval.

The NPDES permit applicable to MSANK expired on June 30, 2015. A renewal application was submitted in December 2014. Although the PA Department of Environmental Protection has not yet issued a renewal NPDES permit, MSANK desires to submit the Headworks Analysis sampling plan for approval at this time in order to avoid any delay in conducting the Headworks Analysis once the permit issued.

It should be noted that there have been no significant changes in the number or type of industrial discharges to the MSANK treatment plant or to the influent, effluent and sludge quality since the previous headworks analysis was conducted in 2012. Based on these considerations, MSANK desires to conduct the required Headworks Analysis in the most cost effective manner possible.

Thank you for your consideration of this matter.

THE MUNICIPAL SANITARY AUTHORITY OF THE
CITY OF NEW KENSINGTON

Daniel H. Rowe, Jr.
Manager

Enclosure

Cc: David Ponchione, P.E. (PADEP)
Joseph Ditty
Linda French (HMM)

HEADWORKS ANALYSIS SAMPLING PLAN

A. Pollutants to be Evaluated

MSANK proposes to evaluate a total of eighteen parameters as part of the Headworks Analysis. The Headworks Analysis evaluation will consist of the "standard ten" parameters including Arsenic, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Silver and Zinc. Molybdenum and Selenium will also be evaluated due to their inclusion in EPA's and Pennsylvania sludge quality program. MSANK also has local limitations for Carbonaceous Biochemical Oxygen Demand, Total Suspended Solids, Hexavalent Chromium, Oil and Grease, Temperature and pH. No additional toxic pollutants are listed in the NPDES permit, nor have other priority pollutants been detected at significant levels during the priority pollutant scans conducted during the quarterly monitoring required by the Pretreatment Program.

B. Sampling Points

MSANK proposes the use of five sampling locations to conduct the Headworks Analysis. The proposed sampling locations are:

1. Raw Influent – the raw influent samples will be collected prior to the influent combining with any recycle or other internal waste streams.

2. Influent to Digester

3. Final Effluent

4. Background samples solely from domestic sources - MSANK applies the local limitations to commercial as well as industrial facilities within the service area. The Municipal Water Authority of the City of New Kensington is the sole supplier of potable water within the MSANK service area. MSANK proposes to collect background samples from sewer segments located in residential sections of Lower Burrell, the City of Arnold and the City of New Kensington. The background samples will be collected on the same days that the Influent and Effluent samples are collected.

5. Sludge

C. Number and Type of Sampling Events

1. Historical Sample Data

MSANK proposes to use historical monitoring data from years 2012 to 2016 to supplement the samples to be collected for the Headworks Analysis.

2. Proposed Sample Data

In order to assess current plant conditions, MSANK proposes to supplement the referenced historical data by conducting sampling on a daily basis for a five-day period. Grab samples will be collected for Cyanide, Hexavalent Chromium, and

Oil and Grease. Temperature and pH will be evaluated through on-site testing procedures. All other parameters will be evaluated using 24-hour composite samples. Proposed sample data includes the following:

a. Raw Influent and Final Effluent

Five, 24-hour composite samples of the Raw Influent and Final Effluent will be collected for analysis. These samples will be analyzed for the eighteen parameters referenced previously.

b. Influent to Digester

A total of five daily grab samples of Influent to Digester will be collected and analyzed for the non-conservative parameter of Cyanide. The samples will be collected on days when Influent and Effluent samples are being collected.

c. Background

Six, 24-hour composite samples of Background wastewater from domestic sources will be analyzed for the eighteen parameters referenced previously. Two samples will be collected from a background sampling location in New Kensington, two samples will be collected from a sampling location in Arnold and two samples will be collected from a sampling location in Lower Burrell.

d. Sludge

Five samples of sludge will be collected from the belt filter press area at the treatment plant. In order to obtain a representative sample, grab samples of sludge will be collected and then combined to form a single composite sample of sludge that will be analyzed for the eighteen parameters referenced previously. One composite sample of sludge will be collected per day, over a five-day period. Sludge samples will be collected on days when Influent and Effluent samples are being collected.

D. Analytical Methods/Detection Levels

MSANK proposes to conduct all pollutant analyses using EPA methodology with the most sensitive detection levels available for each method. A listing of the parameters and the proposed analytical methods are as follow:

Parameter	Analytical Method	Parameter	Analytical Method
Arsenic	EPA 200.8	Total Suspended Solids	SM 2540D
Cadmium	EPA 200.8	Hexavalent Chromium	EPA 218.6
Chromium	EPA 200.8	Oil and Grease	EPA 1664A
Copper	EPA 200.8	pH	EPA 150.1
Cyanide	SM4500CNE-99	Lead	EPA 200.8

Parameter	Analytical Method	Parameter	Analytical Method
Mercury	SM18 3112B	Temperature	SM 2550B
Nickel	EPA 200.8	Carbonaceous Biochemical	
Silver	EPA 200.8	Oxygen Deman d	SM 5210-B
Zinc	EPA 200.8		
Molybdenum	EPA 200.8		
Selenium	EPA 200.8		

E. Schedule

MSANK proposes to conduct the required headworks analysis under the following schedule:

Sample Collection	September 2016
Evaluation of Sample Collection Data	October 2016
Headwork Analysis / Local Limits Reevaluation	November 2016
Submission of Local Limits Reevaluation to EPA	January 2017

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

OCT 1 1 2016

Mr. Joseph Ditty
Pretreatment Coordinator
Municipal Sanitary Authority for the City of New Kensington
120 Logans Ferry Road
New Kensington, Pennsylvania 15068-2046

Re: Pretreatment Program
NPDES No. PA0027111

Dear Mr. Ditty:

I have reviewed the Authority's sampling plan for reevaluation of its local limits, which was submitted on June 21, 2016. Based on this review, I have the following comments.

Pollutants of Concern

The Authority did not include ammonia in its list of pollutants to be evaluated in its local limits reevaluation. Ammonia has often been found to cause toxicity in POTW effluents and therefore, ammonia should be included in the list of pollutants. Note that ammonia can be eliminated from the list of pollutants if there are no industrial users discharging ammonia above background levels. The Authority must provide justification if ammonia is eliminated from the list of pollutants.

Monitoring Points

Based on the Authority's annual pretreatment report for calendar year 2015, the Authority accepts hauled waste at its treatment plant. If the Authority accepts hauled waste that is not regulated through the local limits, the Authority will need to collect data to determine the hauled waste loadings for use in the evaluation.

Sampling

The Authority's sampling plan states that five, 24-hour composite samples of the raw influent and final effluent and six, 24-hour composite samples of background wastewater from domestic sources will be collected for analysis. The Authority must collect grab samples for cyanide, hexavalent chromium, and oil and grease. Also, for grab samples, it is recommended that the Authority takes a series of grab samples instead of a single sample to ensure that the results are more representative of the Authority's system.

Please provide a response to the issues raised above. If you have any questions regarding this matter, please contact me at 215-814-5793, or by e-mail at hennie.jasmine@epa.gov.

Sincerely,

Jasmine Hennie

Jasmine Hennie
NPDES Permits and Enforcement (3WP41)
Water Protection Division

cc: Daniel H. Rowe, Jr., MSANK
Linda French, Mott MacDonald
Chris Kriley, PADEP Southwest Region
Sean Furjanic, PADEP Central Office

MOTT MACDONALD

Ms. Jasmine Hennie
NPDES Permits Branch (3WP41)
Water Protection Division
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Municipal Sanitary Authority of the City of New Kensington
Industrial Pretreatment Program
Headworks Analysis Sampling Plan
Response to Review Letter

Our Reference
351383

Gateway View Plaza
1600 W. Carson Street
Pittsburgh PA 15219
United States of America

T +1 (412) 497 2900
F +1 (412) 497 2901
www.mottmac.com/americas

November 8, 2016

Dear Ms. Hennie:

On behalf of the Municipal Sanitary Authority of the City of New Kensington (MSANK), the following responds to your letter dated October 11, 2016, regarding the MSANK Headworks Analysis Sampling Plan.

1. **Pollutants of Concern**

   MSANK does not want to add Ammonia to the list of pollutants to be evaluated in its local limits reevaluation because there are no known industrial users that discharge Ammonia above background levels. As part of the most recent NPDES permit renewal application, the Ammonia-N concentration in the influent was measured at <0.05 mg/l. Of the three (3) samples of effluent, both the maximum and average Ammonia-N concentration in the effluent was <1.0 mg/l. Additionally, there have been no instances of ammonia toxicity associated with the effluent discharged from the MSANK treatment plant. The effluent did not exhibit toxicity, and each sample passed the four (4) Whole Effluent Toxicity Tests conducted for the permit renewal application. MSANK believes that these reasons justify not including Ammonia as a parameter to be evaluated during the headworks analysis.

2. **Monitoring Points**

   Please note that MSANK allowed a recreational vehicle to discharge the sanitary wastewater from the vehicle several years ago. This was an isolated occurrence and hauled wastewater has not been accepted at the treatment plant since that time. As such, there is no basis for collecting data to determine hauled waste loadings as part

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of the re-evaluation. MSANK will remove the reference to hauled wastewater from the 2016 Pretreatment Annual Report.

3. **Sampling**

   Grab samples will be collected for cyanide, hexavalent chromium and oil and grease applicable to the five (5) raw influent, five (5) final effluent samples and six (6) samples of background wastewater from domestic sources. MSANK will direct the sampler to collect a series of grab samples instead of a single sample to ensure that the results are more representative.

Please contact me if you have any questions regarding this matter.

Sincerely,

Linda French

Linda French
Project Scientist
T 412.497.2912
Linda.French@mottmac.com
/lf

cc: Joseph Ditty - MSANK
Daniel Rowe - MSANK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. Joseph Ditty
Pretreatment Coordinator
Municipal Sanitary Authority for the City of New Kensington
120 Logans Ferry Road
New Kensington, Pennsylvania 15068-2046

FEB 2 1 2017

Re: Pretreatment Program
NPDES No. PA0027111

Dear Mr. Ditty:

I have reviewed the Authority's response to Jasmine Hennie's comments on the sampling plan for reevaluation of its local limits, which was submitted on November 8, 2016.

We appreciate the clarification regarding the issues raised and your sampling plan is acceptable and able to commence immediately. As of this time, no draft permit for the Authority has been submitted. In the case that monitoring for additional pollutants is added, this will need to be addressed while re-evaluating your local limits. You have a year from the permit issuance date to submit your local limits.

If you have any questions regarding this matter, please contact me at 215-814-5736, or by e-mail at green.margaret@epa.gov.

Sincerely,

Margaret Green
NPDES Permits and Enforcement (3WP41)
Water Protection Division

cc: Daniel H. Rowe, Jr., MSANK
Linda French, Mott MacDonald
Chris Kriley, PADEP Southwest Region
Sean Furjanic, PADEP Central Office

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B. Local limit spreadsheet

C. Combined waste stream formula calculations

mottmac.com